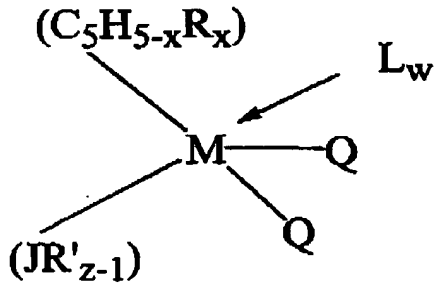
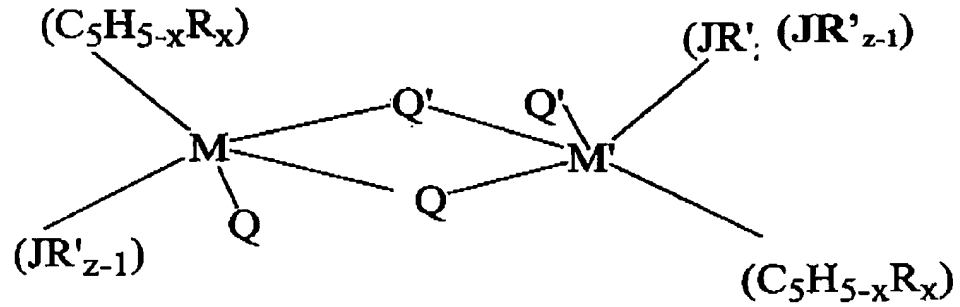
In the Claims

1. - 26. (cancelled)

27. (previously presented) A compound having the general formula:



or



wherein M is Zr, Hf or Ti;

$(C_5H_{5-x}R_x)$ is a cyclopentadienyl ring which is substituted with from zero to five substituent groups "R", "x" is 0, 1, 2, 3, 4 or 5 denoting the degree of substitution, and each substituent group "R" is, independently, a radical selected from the group consisting of C_1-C_{20} hydrocarbyl radicals, substituted C_1-C_{20} hydrocarbyl radicals wherein one or more hydrogen atoms is replaced by a halogen atom, C_1-C_{20} hydrocarbyl-substituted metalloid radicals wherein the metalloid is selected from the group IV A of the Periodic Table of Elements, and halogen radicals, or $(C_5H_{5-x}R_x)$ is a cyclopentadienyl ring in which two adjacent "R" groups are joined forming a C_4-C_{20} ring to give a saturated or unsaturated polycyclic cyclopentadienyl ligand;

(JR'_{z-1}) is a heteroatom ligand in which J is an element with a coordination number of

three from Group V-A or an element with a coordination number of two from Group VI-A of the Periodic Table of Elements, each "R" is, independently, a radical selected from a group consisting of C_1-C_{20} hydrocarbyl radicals, substituted C_1-C_{20} hydrocarbyl radicals where one or more hydrogen atoms is replaced by a halogen radical, and z is the coordination number of the element "J";

each "Q" is, independently, a univalent anionic ligand or two "Q"s together are a divalent anionic chelating ligand, provided that "Q" is different from $(C_5H_{5-x}R_x)$;

"L" is a neutral Lewis base where "w" is a number greater than 0 and up to 3;

"M" has the same meaning as "M"; and

"Q'" has the same meaning as "Q".

28. - 40. (cancelled)

41. (cancelled)

42. - 43. (cancelled)

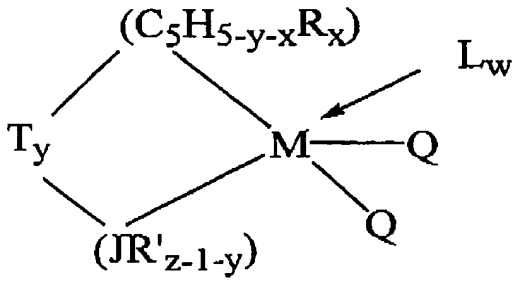
44. (Previously presented) The compound of claim 27 wherein each Q is independently selected from the group consisting of halogen, hydride or C_1-C_{20} hydrocarbyl.

45. (Previously presented) The compound of claim 27 herein each Q is independently selected from the group consisting of hydride, methyl, ethyl, propyl, butyl, amyl, hexyl, heptyl, octyl, nonyl, decyl, cetyl, phenyl, chloro, bromo, fluoro, and iodo.

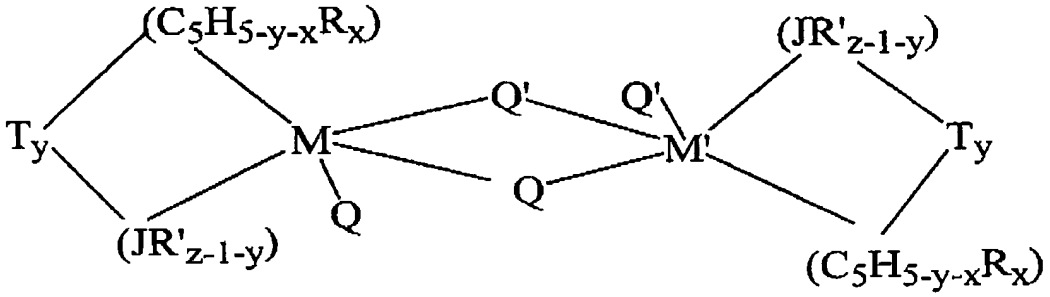
46. (Previously presented) The compound of claim 27 herein M is Zr.

47. (Previously presented) The compound of claim 27 wherein M is Hf.

48. (New) A compound having the general formula



or



wherein M is Zr or Hf;

M' has the same meaning as M;

$(C_5H_{5-y-x}R_x)$ is a cyclopentadienyl ring which is substituted with from zero to five substituent groups R, x is 0, 1, 2, 3, 4 or 5 denoting the degree of substitution, and each substituent group R is, independently, a radical selected from the group consisting of C_1-C_{20} hydrocarbyl radicals, substituted C_1-C_{20} hydrocarbyl radicals wherein one or more hydrogen atoms is replaced by a halogen atom, C_1-C_{20} hydrocarbyl-substituted metalloid radicals wherein the metalloid is selected from the group IV A of the Periodic Table of Elements, and halogen radicals, or $(C_5H_{5-y-x}R_x)$ is a cyclopentadienyl ring in which two adjacent R substituents are joined forming a C_4-C_{20} ring to give a saturated or unsaturated polycyclic cyclopentadienyl ligand;

(JR'_{z-1-y}) is a heteroatom ligand in which J is an element with a coordination number of three from group V-A or an element with a coordination number of two from Group VI-A of the Periodic Table of Elements, and each R' is a radical selected from the group consisting of C_1-C_{20} hydrocarbyl radicals, substituted C_1-C_{20} hydrocarbyl radicals where one or more hydrogen atoms is replaced by a halogen radical, and z is the coordination number of the element J;

each Q is, independently, a univalent anionic ligand or two Q's together are a divalent anionic chelating ligand, provided that Q is not a substituted or unsubstituted cyclopentadienyl ring;

Q' has the same meaning as Q;

y is 1; T is a covalent bridging group containing a Group IV-A or V-A element; and L is a neutral Lewis base where w denotes the number 0 or 1.

49. (New) The compound of claim 48 wherein each Q is independently selected from the group consisting of halogen, hydride or C_1-C_{20} hydrocarbyl.

50. (New) The compound of claim 48 herein each Q is independently selected from the group consisting of hydride, methyl, ethyl, propyl, butyl, amyl, hexyl, heptyl, octyl, nonyl, decyl, cetyl, phenyl, chloro, bromo, fluoro, and iodo.

51. (New) The compound of claim 48 herein M is Zr.

52. (New) The compound of claim 48 wherein M is Hf.

53. (New) The compound of claim 48 wherein M is Ti.

54. (New) The compound of claim 48 wherein J is nitrogen, oxygen, phosphorus, or sulfur.

55. (New) The compound of claim 48 wherein J is nitrogen.

56. (New) The compound of claim 48 wherein ($C_5H_{5-y-x}R_x$) is indenyl, tetrahydroindenyl, fluorenyl, of octahydrofluorenyl.

57. (New) The compound of claim 48 wherein T is a dialkyl, alkylaryl, or diaryl silicon or germanium radical, alkyl or aryl phosphine or amine radical, or a hydrocarbyl radical.

58. (New) The compound of claim 48 wherein T is a dialkyl silicon radical.

59. (New) The compound of claim 48 wherein T is a hydrocarbyl radical.

60. (New) The compound of claim 48 wherein T is methylene of ethylene.

61. (New) The compound of claim 48 wherein T is dimethylsilyl.

62. (New) The compound of claim 48 wherein T is diphenylsilyl

63. (New) The compound of claim 1 wherein Q is a halogen or C_1 to C_{20} hydrocarbyl radical.